

Before
The Public Service Commission
of
South Carolina

Docket No. 2012-357-A
(Year 2012 – 2013 Proceeding)

AMENDED DIRECT TESTIMONY

of

MICHAEL J. BENJAMIN

for

Chem-Nuclear Systems, LLC

Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.

A. My name is Michael J. Benjamin. My business address is 740 Osborn Road, Barnwell, South Carolina. I am employed by Chem-Nuclear Systems, LLC (CNS), a wholly-owned subsidiary of Duratek, Inc. which is, in turn, a wholly owned subsidiary of EnergySolutions, LLC. As General Manager, Barnwell Disposal Operations, I am responsible for the safe and proper disposal of low level radioactive waste received at the disposal facility in accordance with the company's South Carolina Radioactive Material License. I am also responsible for management, supervision and administration of disposal operations personnel, equipment and buildings.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I have an Associate's Degree in Nuclear Technology from Trident Technical College, Charleston, SC. I am a Registered Radiation Protection Technologist through the National Registry of Radiation Protection Technologists. I have over 35 years of experience managing and disposing of low-level radioactive waste. I have been employed with CNS since 1980 in various positions starting as Health Physics Supervisor, then Radiation Safety Officer, and my present position, which I began in November of 2011.

Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY BEFORE THE PUBLIC SERVICE COMMISSION?

A. Yes. Last year I responded to questions posed by the Commissioners during the hearing.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony will provide information to the Commission about the disposal site and facility operations as those matters relate to disposal of low level radioactive waste at the disposal facility located in Barnwell County, South Carolina. I will provide a brief

background on the general process we have used in this proceeding for identifying the allowable costs associated with our low level radioactive waste disposal business. I have included a Second Amended Application for identification of allowable costs as an exhibit to my testimony. I will explain the differences between this Second Amended Application and the Original Application we submitted in September 2012. The Second Amended Application reflects the agreements we reached with the Office of Regulatory Staff (ORS) during their audit of our allowable costs.

Each year, ORS conducts a detailed audit of our accounting records. My testimony will also focus on the principal differences in categories of costs between costs we actually incurred in Fiscal Year 2011-2012 and the estimated costs identified in Commission Order 2012-400. Finally, my testimony will summarize the costs we are requesting the Commission to identify as allowable for Fiscal Year 2012-2013.

Q. PLEASE EXPLAIN WHY CHEM-NUCLEAR FILED A SECOND AMENDED APPLICATION PRIOR TO THIS HEARING.

A. After the Amended Application was filed, it was brought to our attention that there were two typographical errors in the Amended Exhibits, and one change made after concurring with the ORS audit was not explained in my original Direct Testimony. The errors did not change the totals of the exhibits, but we have corrected them in the Second Amended Exhibits. I will point these out as I discuss those sections of the Second Amended Application.

Q. PLEASE DESCRIBE THE DISPOSAL SITE.

A. Chem-Nuclear (CNS) operates a low level radioactive waste (LLRW) disposal facility located approximately five miles west of the City of Barnwell in Barnwell County, South Carolina. The closest municipality to the disposal site is the Town of Snelling. CNS has

operated the disposal site since 1971 continuously with no interruptions or regulatory shutdowns. We are proud of our exemplary safety and compliance record.

The disposal site comprises approximately 235 acres of property owned by the State of South Carolina and leased by CNS from the South Carolina Budget and Control Board (SC B&CB). The 235-acre licensed disposal area is divided into different use categories including active trenches, completed trenches, potential trench areas, and ancillary facility, water management and buffer zone areas. Approximately 120 of the 235 acres are completed trenches with enhanced (multi-layer or geo-textile) caps installed.

The disposal site could not be operated successfully without an experienced and talented group of employees. They are critically important to the safe and compliant operation of the disposal site. Many of CNS' employees at the disposal site have been with the company for twenty years or more. Attracting and retaining high quality, well-motivated personnel is an integral part of successful, safe and regulatory compliant disposal of LLRW.

Q. PLEASE DESCRIBE THE DISPOSAL SITE OPERATIONS IN FISCAL YEAR 2011-2012, INCLUDING CHANGES FROM PREVIOUS YEARS' OPERATIONS.

- A. We continue to operate as an in-compact disposal site, accepting waste from the Atlantic Compact states of South Carolina, New Jersey, and Connecticut only.

Q. PLEASE DESCRIBE BRIEFLY THE STATUTORY AND REGULATORY BACKGROUND FOR CHEM-NUCLEAR'S APPLICATION THAT IS THE SUBJECT OF THIS HEARING.

- A. This is the twelfth hearing conducted by the Commission in this docket to fulfill its responsibilities under the "Atlantic Interstate Low level Radioactive Waste Compact Implementation Act" of 2000. As required by the Act, the Commission has held formal

proceedings annually and published orders after hearings in this docket by which the Commission has identified Chem-Nuclear's "allowable costs". By that determination, as provided by the Act, Chem-Nuclear is able to recover costs it incurs for operations in the disposal of low level radioactive waste at its Barnwell site.

Over the previous eleven hearings, and as the Commission's orders demonstrate, the Commission has relied on the evidence to make numerous determinations with respect to which of our costs are to be properly considered as "allowable," and the Commission has consistently refined its decisions on the issues. As a consequence, many of the issues that the parties and the Commission addressed in previous proceedings have been resolved and the orders represent the precedents upon which we have relied in preparing our Applications and evidence in this case.

Q. PLEASE EXPLAIN THE GENERAL CONCEPT THAT CHEM-NUCLEAR'S APPLICATION AND EVIDENCE EMBODY IN THIS PROCEEDING.

- A.** Our Second Amended Application and our evidence in this case represent a similar approach to what I understand was used in previous proceedings. That approach incorporates the separation of costs into the three categories that were identified in the Collaborative Review of Chem-Nuclear's Operations and Efficiency Plan that the Commission approved and which the Commission has directed Chem-Nuclear to use by previous orders in this Docket. Those three categories are fixed costs, variable costs and irregular costs. Our Second Amended Application and evidence for Fiscal Year 2011-2012 also reflect the full use of the accounting system the Commission approved in Order 2011-388. That accounting system enables us to capture and track the separated costs as we incur them and incorporate the data effectively in our internal monthly data reports and in our Second Amended Exhibits to the Second Amended Application and our evidence.

The actual data collected in the three cost categories for Fiscal Year 2011-2012 provide information to adjust the projected costs the Commission identified as allowable in Commission Order 2012-400 to reflect actual operations experience.

Q. PLEASE EXPLAIN THE DIFFERENCES BETWEEN CHEM-NUCLEAR'S APPLICATION AND THE SECOND AMENDED APPLICATION PROVIDED AS AN EXHIBIT TO YOUR TESTIMONY.

- A.** The differences between the Original Application and the Second Amended Application were in the Fixed and Irregular Costs for Fiscal Year 2011-2012 and in some proposed Fixed Costs for Fiscal Year 2012-2013. Actual Fixed Costs for Fiscal Year 2011-2012 identified in the Second Amended Application are \$36,018 less than the Actual Fixed Costs identified in the Original Application. This reduction is primarily the result of an adjustment in Corporate Allocation (G&A) for Fiscal Year 2011-2012. The initial number included in the Original Application incorporated more costs than appropriate due to some G&A costs being disallowed by the Office of Regulatory Staff. As a result of this adjustment, the actual Fixed Costs incurred for Fiscal Year 2011-2012 were \$2,876,147. This amount is \$121,899 more than the amount identified in Order No. 2012-400. Therefore, we request an adjustment of \$121,899 in this category of costs.

One of the typographical errors corrected in the Second Amended Exhibit A is for **Subtotal (Fixed Cost subject to 29% margin)** under the column **Actual Costs Incurred in FY 2011-2012**. The subtotal should be \$2,841,838. The **Total Fixed Costs** shown on the exhibit is correct. We neglected to change the subtotal on the Amended Exhibit A.

Actual Variable Labor and Non-Labor Costs in the Second Amended Application is the same as the Actual Variable Labor and Non-Labor Costs in the Original Application. In

the Original Application we asked for no adjustment in this category of costs, and we also ask for no adjustment in this category of costs in the Second Amended Application.

Actual Vault Costs in the Second Amended Application and the Original Application are the same: \$437,861. However, in the Second Amended Application we are requesting an adjustment of \$20,604 compared to an adjustment of \$20,208 in the Original Application. This difference in the adjustment is due to the volume of waste in the classes of waste in the calculation used to determine the calculated cost using the Variable Cost Rate in Order No. 2012-400. Therefore, we request an adjustment in this category of costs of \$20,604.

Actual Irregular Costs identified in the Second Amended Application are \$14,483 less than the Actual Irregular Costs identified in the Original Application. This amount is the result of an adjustment in Institutional Overage costs from \$14,744 to \$261 as a result of the Office of Regulatory Staff audit. As a result, the actual Irregular Costs incurred for Fiscal Year 2011-2012 were \$259,408. This amount is \$71,754 more than the amount identified in Order No. 2012-400. Therefore, we are requesting an adjustment of \$71,754 in this category of costs.

Our second typographical error correction occurred on page 4 of the Second Amended Exhibits. This exhibit has the heading, **Irregular Costs Adjustment Proposed**. Under the **Actual FY 11-12 Non-Labor** column for **License Renewal and Appeal Costs**, our Amended Exhibit showed the amount as \$4.44. On the Second Amended Exhibit we corrected this amount to \$4.00, which is the number used to calculate the total of that column in the Amended Exhibits and the Second Amended Exhibits.

The Second Amended Application includes changes to the proposed costs for Fiscal Year 2012-2013. The changes to our first and Second Amended Exhibit C are in the Fixed Costs category of costs. In the Second Amended Application we are proposing Fixed

Costs of \$2,937,390 compared to \$3,098,772 in the Original Application. As a result of the Office of Regulatory Staff's audit, we adjusted proposed Corporate Allocations and Insurance in the Amended Application and the Second Amended Application, and reflected that change on the Amended Exhibit C and the Second Amended Exhibit C.

The ORS Examination Report proposed a rate for **Slit Trench Operations** under **Variable Labor and Non-Labor Rates** that more accurately reflect actual costs. We concur with this rate, which is different from the rate we proposed on Exhibit C, as it more accurately reflects actual costs. Our Second Amended Exhibit C reflects that change in the rate.

Q. PLEASE DESCRIBE THE MANNER IN WHICH CHEM-NUCLEAR TREATS “ALLOWABLE COSTS” UNDER THE REGULATORY PROCESS ESTABLISHED BY THE ACT?

- A.** Chem-Nuclear's method for seeking adjustments to the costs identified by the Commission in its orders is different from the regulatory treatment of other regulated entities. First of all, the Act does not provide for the Commission to determine our revenue requirements, including rate of return, based on a test year, and fix our rates or charges to enable Chem-Nuclear to recover its revenue requirements. Under the Act, the Commission does not evaluate our revenue to fix rates and charges. The Act empowers the Commission to identify our “allowable costs,” and we deduct this total (including a statutory margin applied on some costs) from the annual amount paid to the State.

At the end of each fiscal year, we compare the costs we actually incur to operate the site to the costs previously identified as allowable in the Commission's order for that year. We only use the actual costs incurred as the amount that we request the Commission to identify as allowable in the following proceeding. That means that if we do not actually spend as

much as the Commission has allowed for a particular cost category, then we only use the actual amount spent in determining the allowable cost for Chem-Nuclear at the end of the year. If we were to spend more than the identified amount, we apply to the Commission to recover the extra cost in the subsequent fiscal year. Chem-Nuclear sometimes carries costs for a year or more until the Commission rules on our Application to recover them.

Q. PLEASE EXPLAIN HOW THE PROCESS WORKS BY USE OF AN EXAMPLE?

A. Vault cost recovery is a good illustration of the method. Each year the Commission determines variable vault cost rates for standard disposal vaults that are dependent on the number of cubic feet of waste in four classifications received at the site (Class A, Class B, Class C, and Slit Trench waste). That “variable vault cost rate” can be used to forecast the vault costs in the next year, based on the volume of waste received in each category. However, it is difficult to predict accurately by waste classification the volume and mix of waste that will be received in any given year. Therefore, the variable vault cost rate will sometimes forecast a dollar amount for vault costs that is in excess of the actual amount spent. In such cases, the actual amount spent to procure concrete disposal vaults is used to determine Chem-Nuclear’s cost recovery and fee, not the higher amount forecast by the variable vault cost rate. If the situation were reversed, that is, if the vault costs exceeded the level previously identified by the Commission, Chem-Nuclear would seek to recover the additional amount that we actually spent as part of the application for allowable cost recovery for the subsequent fiscal year in the next year’s Commission proceeding.

Q. PLEASE EXPLAIN HOW THE ALLOWABLE PORTION OF CORPORATE GENERAL AND ADMINISTRATIVE (G&A) COSTS IS DETERMINED.

A. There are three components to the Corporate G&A Costs identified in our application. These components and their respective allocation methods are: Corporate SG&A (total

cost basis), Corporate Information Systems (IS) allocation (based on a “head count” or the number of employees assigned to each business unit), and Columbia SG&A allocation (based on the number of disposal site personnel located in the company’s Columbia, SC offices). The Office of Regulatory Staff again conducted a detailed audit of the pool of costs that formed the basis for CNS’ G&A allocation to identify costs that were allowable and costs that were unallowable under the statute.

Q. WHAT ALLOWABLE COSTS ARE INCLUDED IN G&A?

- A. Corporate SG&A costs are allocated to each business unit on a total cost basis. The pool of costs that forms the basis for the Corporate SG&A Allocation includes costs for Corporate Executive Management and Support, Contracts and Finance, Contracts Legal Support, Human Resources Corporate Support, Accounting Corporate Support, and Regulatory Affairs and Environmental, Safety, Health and Quality Assurance Corporate Support.

The Corporate IS costs are allocated based on the “head count” or number of employees assigned to each business unit. Columbia SG&A costs are allocated to business units based on the number of each respective business unit’s employees located in the company’s Columbia, SC office. The total actual allowable Corporate G&A allocation for Fiscal Year 2011-2012 was \$648,695.

Q. PLEASE DESCRIBE THE ALLOWABLE COSTS INCURRED IN FISCAL YEAR 2011-2012 AND COMPARE THOSE COSTS TO THE AMOUNTS IDENTIFIED IN COMMISSION ORDER No. 2012-400.

- A. This part of my testimony will focus on the principal differences in categories of costs between actual costs incurred in Fiscal Year 2011-2012 and the costs identified in Commission Order No. 2012-400. We are requesting adjustments to the Fixed Costs, the Variable Vault Costs, and the Irregular Costs incurred in Fiscal Year 2011-2012.

Fixed Costs

Actual Fixed Costs incurred in Fiscal Year 2011-2012 were \$121,899 more than the Fixed Costs identified in Commission Order No. 2012-400. The primary drivers for the increase in Fixed Costs were in the Labor, Fringe and Non-Labor cost and the Corporate Allocations cost. The total Fixed Costs incurred in Fiscal Year 2011-2012 were \$2,876,147.

Variable Costs

Variable Costs consist of two parts. I will discuss Variable Labor and Non-Labor Costs and then Variable Material Costs for the concrete disposal vaults.

Variable Labor and Non-Labor Costs

Variable Costs identified in Order No. 2012-400 include variable labor and non-labor costs, such as vault purchase and inspection, ABC waste disposal, slit trench operations, customer assistance, and trench records. The actual Variable Labor and Non-Labor costs experienced in the disposal of waste in Fiscal Year 2011-2012 resulted in a Total Variable Labor and Non-Labor Cost of \$231, 559. This amount is \$18,478 less than the amount that would have been anticipated based on rates provided in Commission Order No. 2012-400. Chem-Nuclear requests no adjustment in this category of costs.

Variable Material (Vault) Costs

The amount of actual Variable Material (Vault) Costs incurred in Fiscal Year 2011-2012 for standard disposal vaults were \$20,604 more than the amount calculated using rates identified in Commission Order No. 2012-400.

Costs incurred each year for standard disposal vaults are affected by a number of factors including the size and shape of waste packages received and the number and type of vaults

used for routine waste disposal. The rates developed are used as one predictor of the cost of vaults, however, actual costs for the disposal vaults are known and measurable at the conclusion of the fiscal year. Actual costs of \$437,861 were incurred for concrete disposal vaults used to dispose of routine shipments of radioactive waste in Fiscal Year 2011-2012.

Irregular Costs

Not all Irregular Costs for the year are known at the time a Commission order is issued. Irregular Costs are costs incurred for projects that may not occur each year or projects that occur each year but with varying costs. Each year Irregular Cost projects with varying costs include trench construction, site engineering and drawing updates, and other site construction projects. Examples of projects that may not recur each year are irregular component disposal, site assessments and license renewal proceedings and hearings. Total Irregular Costs incurred for Fiscal Year 2011-2012 were \$259,408 as compared to the amount identified in Commission Order No. 2012-400 of \$187,654. Chem-Nuclear is requesting an adjustment in Irregular Costs of \$71,754, of which \$71,493 is an adjustment of Operations Irregular Costs and \$261 of Institutional Costs.

I will next explain the Institutional Costs adjustment of \$261. After the disposal site closed to out of compact waste in 2008, we began Phase 1 Decommissioning of the closed portion of the disposal site. Costs associated with Phase 1 Decommissioning were paid from the Decommissioning Trust Fund as they were not considered regular operational costs. There are some categories of costs that are split between operational costs and costs related to closed areas of the disposal site. One such cost is security. We apportion part of that cost to operations and the remainder is considered an institutional cost (costs related to closed areas of the disposal site). Institutional costs are paid out of the Decommissioning Trust Fund, but the State Energy Office (SC Budget & Control Board) caps the amount of

institutional costs that can be paid from the Decommissioning Trust Fund each year. For Fiscal Year 2011-2012, the institutional costs to be paid from the Decommissioning Trust Fund could not exceed a maximum of \$2,111,918. Our actual institutional costs were \$261 more than the amount that could be paid from the Decommissioning Trust Fund.

Q. PLEASE DESCRIBE THE COSTS PROPOSED FOR FISCAL YEAR 2012-2013.

- A.** The costs proposed for Fiscal Year 2012-2013 are summarized in Second Amended Exhibit C. Disposal operations in Fiscal Year 2012-2013 will continue to reflect smaller routine volume disposal site operations because the disposal site will only accept waste from the three Atlantic Compact states.

Proposed Fixed Costs

The Fixed Labor Costs (labor and fringe costs) proposed for Fiscal Year 2012-2013 and Non-Labor Fixed Costs proposed are based on actual Fixed Labor Costs incurred in Fiscal Year 2011-2012. Insurance costs proposed for Fiscal Year 2012-2013 are based on costs incurred during the first six months of the year projected forward to the anticipated insurance premium costs for the year.

Legal expenses are anticipated to be continuing because of the license renewal appeal process.

Total Fixed Costs proposed for Fiscal Year 2012-2013 in the Amended Application are \$2,937,390.

Proposed Irregular Costs

As discussed earlier, not all Irregular Costs were known at the time the application was submitted. The Irregular Costs identified in Amended Exhibit C are based on costs incurred during the first half of Fiscal Year 2012-2013 and activities expected in the second

half of the Fiscal Year. A total of \$191,172 in various irregular project costs is summarized in Second Amended Exhibit C to our Second Amended Application.

Proposed Variable Labor and Non-Labor Cost Rates

In the Second Amended Application, the Variable Labor and Non-Labor cost rates proposed for Fiscal Year 2012-2013 are based on rates identified in Commission Order No. 2012-400 plus a nominal overall inflation rate of three percent, with the exception of the slit trench operations. The Amended Exhibit C and the Second Amended Exhibit C show a change in the **Slit Trench Operations** under **Variable Labor and Non-Labor Rates** from the original Exhibit C. This change in the rate more accurately reflects actual costs than the rate shown on the original Exhibit C. It also reflects the proposed rate in the ORS' Exhibit AA.

Proposed Variable Material (Vault) Cost Rates

Rates for concrete disposal vaults are calculated based on the volume of each waste classification disposed and the cost of vaults used for disposal of that waste. The actual volume of waste in each type of disposal vault, of course, depends on a number of other factors including the size, shape and material composition of waste packages received, dose rates measured on the waste packages received, and the mix of waste received between the various waste classifications. The Variable Cost Rate for concrete disposal vaults is expressed in dollars per cubic foot of each major classification of waste (Class A, Class B, Class C, and Slit Trench waste).

The Second Amended Application (Second Amended Exhibit C) provides Variable Cost Rates for concrete disposal vaults expressed in dollars per cubic foot of each major classification of waste (Class A, Class B, Class C, and Slit Trench waste). The rates

provided in Second Amended Exhibit C are based on rates identified in Commission Order 2012-400 with a nominal inflation rate of three percent.

Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes it does.